

LEGEND

RP W W W W ROOT PRUNING

TP O O TREE PROTECTION

CRZ - CRITICAL ROOT ZONE
(TREE TO BE SAVED)

X TREES TO BE REMOVED
INCLUDING CRZ OUTSIDE THE
LIMITS SHOWN

EXISTING TREELINE

LIMITS OF TREE REMOVAL

PERMISSION FROM ADJACENT PROPERTY OWNER
REQUIRED FOR REMOVAL OF OFFSITE/SHARED TREES

TREE SURVEY

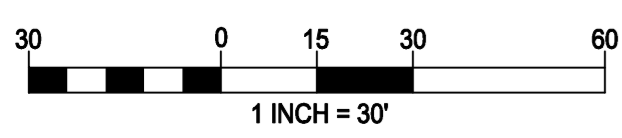
FOUNDERS ROW
AT THE INTER SECTION OF WEST BROAD STREET,
NORTH WEST STREET & PARK AVENUE
CITY OF FALLS CHURCH, VIRGINIA

WALTER L. PHILLIPS
INCORPORATED
ESTABLISHED 1945
DATE: SUB 01 9/22/2018, SUB 02 2/20/2018, GMP 8/27/2018, SUB 03 7/10/2018
SCALE: 1" = 30'

COMMONWEALTH OF VIRGINIA
KAREN L. S. WHITE
Lic. No. 041850
7/10/18
PROFESSIONAL LANDSCAPE ARCHITECT

Engineers • Surveyors • Planners
Landscape Architects • Arborists
207 PARK AVENUE
FALLS CHURCH, VIRGINIA 22046
(703) 532-6163 Fax (703) 533-1301
www.WLPINC.com

TREE PRESERVATION AND LANDSCAPE PLAN PREPARED BY:
B. Schittler
BENJAMIN J. SCHITTIER, CERTIFIED ARBORIST ISA #MA-5385A 07/07/2014



1. Prior to allowing any vehicle or construction equipment to enter the site, the construction foreman and project arborist (also foreman of company doing actual tree work if different from project arborist) is to meet the City Arborist to mark the location of the *limits of clearing*, *tree preservation fencing*, erosion control fabric, and root pruning line (where required), access routes, storage areas, and parking areas. The location of the LIMITS OF CLEARING/TREE PRESERVATION FENCING is to be installed in accordance with the approved plan and field located from existing benchmarks, landmarks, and building stakeout survey markers. All work procedures and tree preservation measures are to be discussed at this time. An appointment must be made with the arborist for the City a minimum of three days prior to the establishment of the tree preservation measures is required by City Code (Sec. 35-15 (b), see enclosed. Contact the City Arborist for an appointment at 703-248-5183.

2. Trees to be removed shall be clearly marked and approved by the City Arborist prior to demolition or entry of any equipment on site. A tree contractor licensed and bonded to work in the City shall perform all tree work, including all tree removals. Check with the City Arborist for a copy of the most recent list of Tree Contractors.
3. *Tree preservation fencing* shall be either of the following:
 - a. Six (6) foot high chain link fence sections attached to one and five eighths (1 5/8) inch outside diameter pipe with eleven (11) -gauge mesh in a two (2) inch diamond pattern. The fencing noted above may be temporary panels set in concrete blocks at the base and secured at the top with saddle clamps
 - or
 - b. Four (4) foot high fourteen (14) gauge welded wire fence supported by six (6) foot long metal stakes (2" width) to be spaced eight (8) feet on center and sunk into the ground.

Both of the fencing types noted above shall be flagged with brightly colored surveyor ribbon to improve their visibility. The contractor must maintain fencing in place throughout construction. **In the event fencing must be temporarily removed for any reason, contact must be made first with the arborist at 703-248-5183.** The City Arborist must grant approval before any tree preservation fencing is removed, even temporarily.

4. Erosion and sediment control fencing shall be placed on the inside (toward construction) from the tree preservation fencing and any root-pruning trenches. Erosion control devices such as silt fencing, debris basins, and water diversion structures shall be installed to prevent siltation and/or erosion within the tree protection zone. Property owners are advised to impose fines in contracts with construction companies if tree preservation measures are violated.

5. **Demolition and Site Clearing:**
 - a. The City Arborist shall be notified a minimum of three (3) days in advance of commencing any form of tree work. Call 703-248-5183 for an appointment.
 - b. Trees to be removed shall be felled so as to fall away from tree protection zones and to avoid pulling breaking of roots of trees to remain. If roots are entwined, the consultant may require first severing the major woody root mass before extracting the trees. This may be accomplished by cutting through the roots by hand, with a vibrating knife, rock saw, and narrow trencher with sharp blades, or other approved root-pruning equipment.
 - c. Trees being cut within the tree preservation zone shall be cut near ground level and the stumps ground out with a walk-behind grinding machine.
 - d. All downed brush and trees shall be removed from the tree protection zone either by hand or with equipment sitting outside the tree protection zone. Extraction shall occur by lifting the material out, not by skidding it across the ground.
 - e. Brush shall be chipped and placed in the tree protection zone to a depth of 6 inches, with no chips against the trunks of trees.
 - f. Structures and underground features to be removed within the tree protection zone shall use the smallest equipment possible and operate from outside the tree protection zone. The City Arborist shall be present during all such operations within the tree protection zone to monitor demolition activity. Phone 703-248-5183 at least three (3) days in advance for an appointment.
 - g. Any damage to trees due to demolition activities shall be reported to the City Arborist within 6 hours so that prompt remedial action can be taken.
 - h. If temporary haul or access roads must pass over the root area of trees to be retained, a roadbed of at least 10 inches of mulch shall be created to protect the soil. The roadbed material shall be replenished as necessary to maintain a10-inch depth. The City Arborist must approve the use of any such temporary road in the tree protection area.

6. Pruning & Other Preservation Measures Specifications:
 - a. The City Arborist shall be notified a minimum of three (3) days in advance of commencing any form of tree work. Call 703-248-5183 for an appointment.
 - b. Root pruning, where required, shall be mechanically done with a narrow trencher with sharp blades. Once a trench is opened up, approximately 18-24" in depth and 4" wide all exposed roots will be hand pruned so that the clean-cut ends can regrow.

The tree preservation fencing shall be placed 6-12" outside the root-pruning trench (construction side of the trench). The erosion and sediment fencing shall be placed outside the tree preservation fencing (construction side of the fence).

 - Where required, apply a slow-release complete fertilizer containing major and trace elements, but low in water-soluble nitrogen during the season before the commencement of construction. An application of a *mycorrhizae* product may also be required to assist in the preservation of highly stressed trees.
 - c. All trees to be saved will be pruned (in accordance with American National Standards Institute (ANSI) Standard Practices for Trees, Shrubs, and Other Woody Plant Maintenance ANSI A300 and adhere to the most recent edition of ANSI Z133.1.
 - d. Treat any disease or insect pest as required to reduce stress on trees.
 - e. Remove all invasive vines growing on trees and from the area around the trees
 - f. Specifications for work to be performed on individual trees shall be indicated under the "maintenance" column of the Tree Survey.
 - g. All trees within the project area shall be pruned to:
 - clear the crown of diseased, crossing, weak, and dead wood to a minimum size of 1 ½ inches diameter;
 - provide 14 feet of vertical clearance over streets and 8 feet over sidewalks;

- remove stubs, cutting outside the woundwood tissue that has formed around the branch;
- reduce end weight on heavy, horizontal branches selectively removing small diameter branches, no greater than 2 to 3 inches near the ends of the scaffolds.

- h. Where temporary clearance is needed for access, branches shall be tied back to hold them where out of the clearance zone. The City Arborist must approve such tying.
 - i. Pruning shall not be performed during periods of flight of adult boring insects because fresh wound attract pests. Pruning shall be performed only when the danger of infestation is past.
 - j. All work must be performed by a tree contractor licensed and bonded to work in the City and in accordance with the direction of the project certified arborist and the City Arborist.
 - k. Interior branches shall not be stripped out.
 - l. Pruning cuts larger than 4 inches in diameter, except for dead wood, shall be avoided.
 - m. Pruning cuts that expose heartwood shall be avoided whenever possible.
 - n. No more than 20 percent of live foliage shall be removed from a tree at one time.
 - o. While in the tree, the arborist shall perform an aerial inspection to identify defects that require treatment. Any additional work needed shall be reported to the City Arborist.
 - p. Brush shall be chipped and chips shall be spread underneath trees within the tree protection zone to a maximum depth of 6 inches, leaving the trunk and root flare clear of chips.
 - q. It may also be necessary to fertilize, aerate and otherwise treat the "trees to be saved" as required by the arborist for the City, following a meeting with the owner's/developer's arborist and approval of the "tree preservation plan". All tree work must be completed prior to construction.
 - r. "Selective clearing" in wooded areas will be allowed only under the direction of the City Arborist. Trees to be removed will be felled by hand so that minimal damage is done to "trees to be saved".
 - s. No vehicles or storage of materials of any kind will be allowed inside the limits of clearing. No storage of material or debris will be allowed within the "tree save area". No burning will be allowed on site.
 7. Construction Specifications:
 - a. Supplemental water shall be supplied to trees being preserved when natural rainfall is less than 1" a week, from early spring until the ground freezes in the fall. Irrigation should be designed to wet the soil to a depth of 2-3 feet. Lacking a source of water early on the construction site, this may be accomplished by constructing a 6" berm around the tree protection zone and filling the basin with a water truck or by injecting the soil using a pressure system from a truck mounted water tank. Shallow frequent watering should be avoided.
 - b. Have a licensed and bonded tree contractor remove torn, hazardous, or prominent deadwood as it occurs, using ANSI standards noted under # 4 above.
 - c. Where construction traffic must occur in the area of tree roots it shall be necessary to apply the following procedure: cover undisturbed soil with 10-15 inches wood chips and topped with chain link fence. Fence pulled taut and anchored or topped with 5/8 to 3/4 inch plywood with non-skid surface.
 - d. Where compaction occurs during construction, vertical mulch with good quality compost.
 - e. Before grading, pad preparation, or excavation for foundations, footings, walls, or trenching, relevant trees shall be root pruned 1 foot outside the tree protection zone

by cutting all roots cleanly to a depth of 24 inches to the maximum depth of root penetration, (usually 3 feet). Roots shall be cut by manually digging a trench and cutting exposed roots with a saw, vibrating knife, rock saw, narrow trencher with sharp blades, or other approved root-pruning equipment. Pruned roots shall be promptly covered with soil.

Any roots damaged during grading or construction shall be exposed to sound tissue and cut cleanly with a saw and promptly covered with moist soil.

Soil from trenches, basements or other excavations shall not be placed within the tree protection zone, either temporarily or permanently. Soil stockpiles should be placed only in previously designated areas. No vehicles or construction equipment shall be parked in the tree protection zone.

No burn piles or debris pits shall be placed within the tree protection zone. No ashes, debris or garbage may be dumped or buried within the tree protection zone. No materials of any kind shall be stored in the tree protection zone.

Maintain fire-safe areas around fenced areas. Also, no heat sources, flames, ignition sources, or smoking is allowed near mulch of trees.

A copy of the "approved plan" and TREE PRESERVATION PROCEDURES AND SPECIFICATIONS must be maintained on site at all times.

All underground utilities and drain or irrigation lines shall be routed outside the tree protection zone. If lines must traverse the protection area, they shall be tunneled or bored under the tree(s) with the approval of the City Arborist.

A licensed and bonded tree contractor must perform additional tree pruning required for clearance during construction under the direction of the City Arborist.

Construction workers shall not be allowed to prune trees.

Any herbicides placed under paving materials must be safe for use around trees and labeled for that use. Any pesticides used on site must be tree-safe and not easily transported by water.

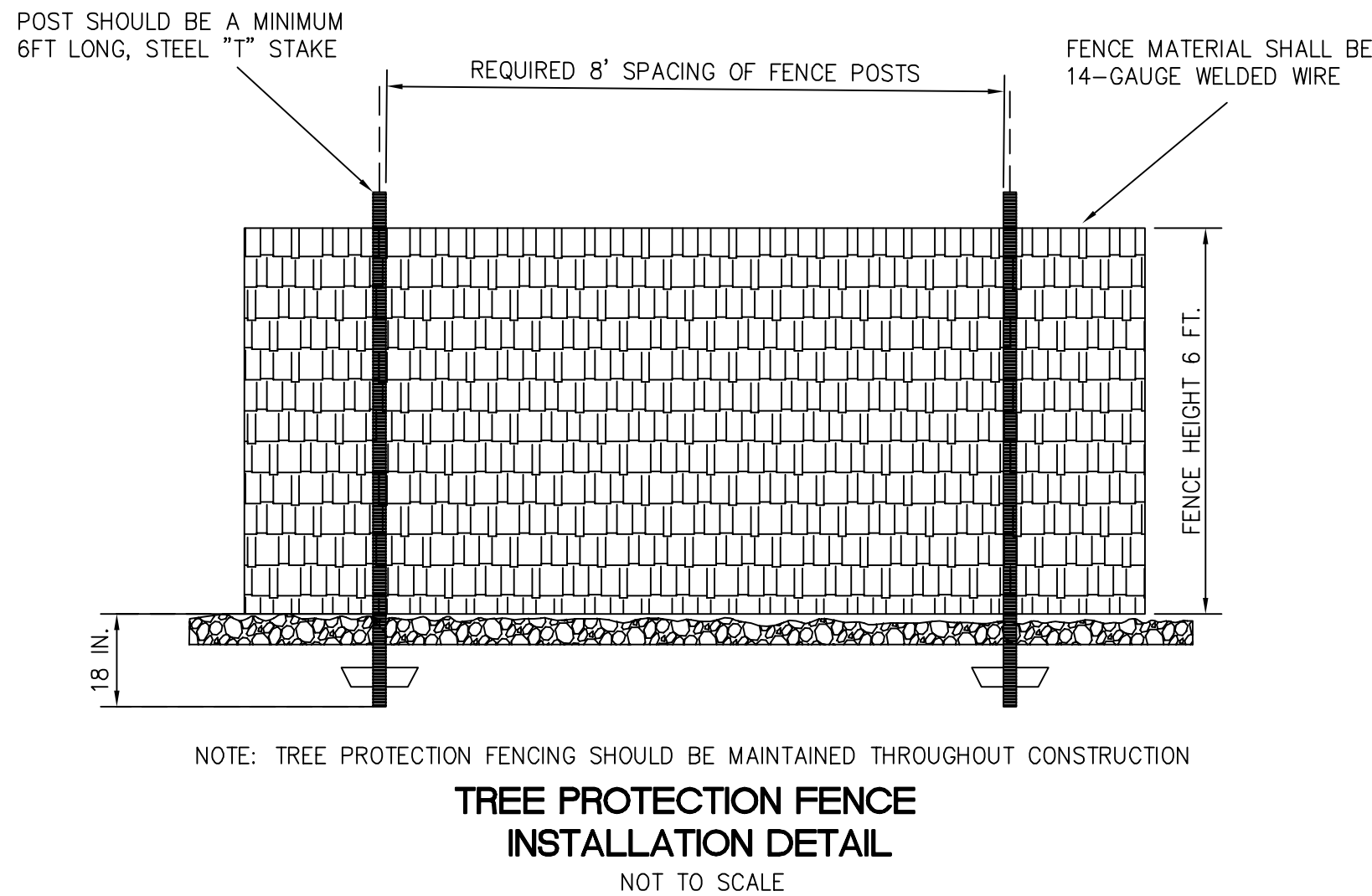
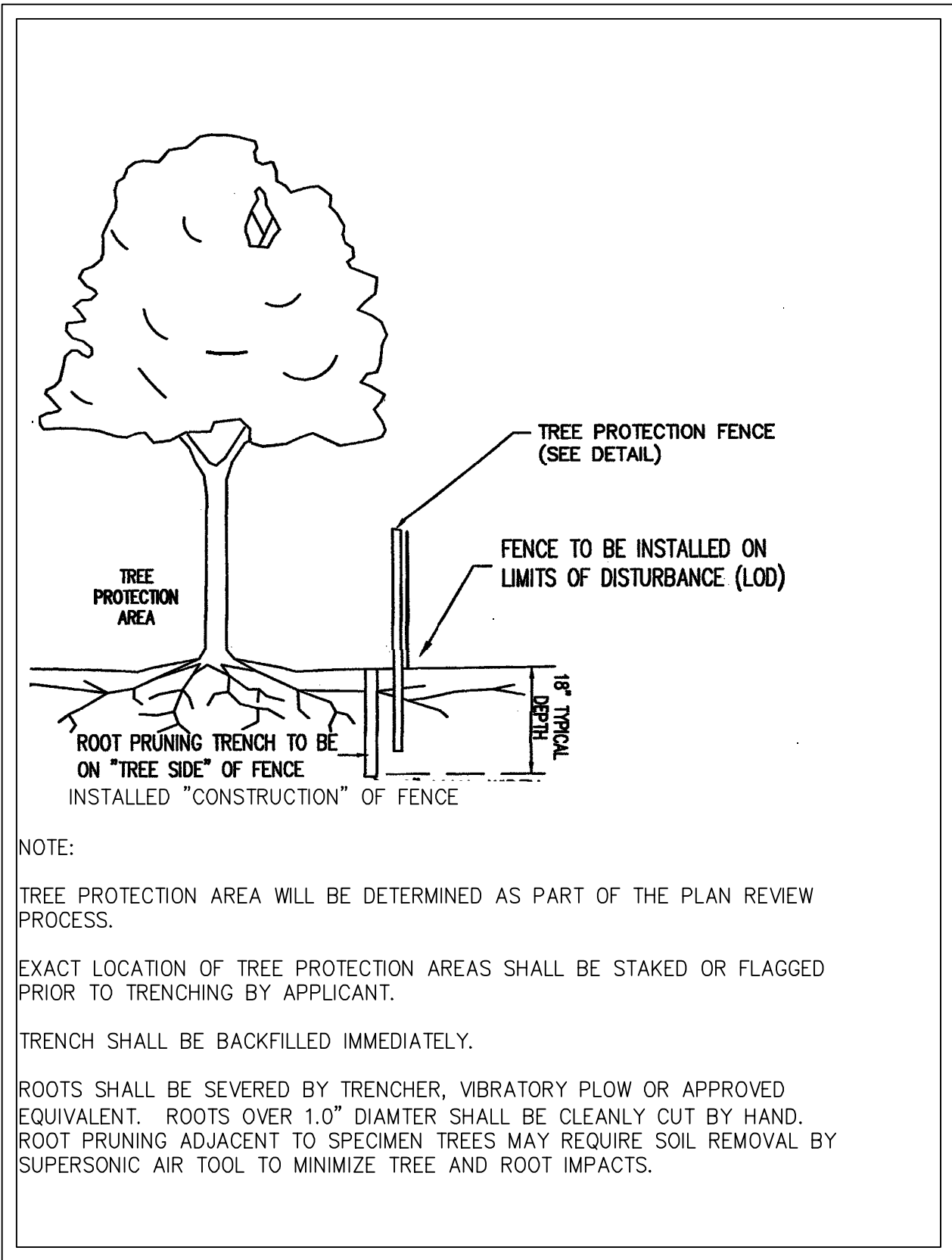
If injury should occur to any tree during construction, it should be treated as soon as possible under the direction of the City Arborist.

The City Arborist must monitor any grading, construction, demolition, or other work that is expected to encounter tree roots.

At the completion of construction (and all equipment has been removed from site), notify the City Arborist for an inspection before removing the tree preservation fencing. At this time, all trees will be inspected and any repairs needed will be stipulated by the City and promptly made by the Contractor. (Refer to Sec. 35-15(b) of the City Code for guidance on finalizing the requirements of the bond agreement.

8. The planting of the new tree(s) specified on the plan shall take place after the completion of construction. The City Arborist must inspect the trees prior to planting (see Arborist Notification) and also inspect the placement and installation of the tree(s). All products and workmanship related to the planting of the tree(s) must be in accordance with the **Tree Planting Specifications** attached. The Contractor/Owner must present the City with a copy of a one-year guarantee from the landscape contractor for the newly planted tree(s). The tree will need to be thriving and in good condition one year from the date of planting or will need to be replaced.

PRIOR TO THE SIGN OFF AND SUBSEQUENT RELEASE OF THE GRADING PLAN ALL PRESERVATION MEASURES REQUIRED, AS PART OF THE LANDSCAPE PRESERVATION PLAN, SHALL BE REVIEWED AND APPROVED BY THE CITY OF FALLS CHURCH ARBORIST. THIS MAY INCLUDE BUT IS NOT LIMITED TO TREE WORK, FENCING, MULCHING AND ROOT PRUNING. VIOLATIONS OF THE LANDSCAPE PRESERVATION PLAN SHALL RESULT IN FINES, STOP WORK ORDERS AND/OR THE RESUMPTION OF A "MITIGATION PLAN". THE REQUIRED REPLACEMENT VEGETATION SHALL BE INSPECTED PRIOR TO PLANTING BY THE CITY ARBORIST. VEGETATION THAT IS INSTALLED UNLESS IT IS SPECIFICALLY OBJECTED TO, BY APPOINTMENT CALL, THE SENIOR URBAN FORESTER (703) 248-5016.



ATTACHMENT TO TREES OR
VEGETATION IS PROHIBITED

SIGNS TO BE PROPERLY MAINTAINED THROUGHOUT CONSTRUCTION

SIGN POSTS MAY BE WOOD OR METAL BUT MUST MAKE THE SIGN VISIBLE FROM A STANDING POSITION

SIGNS MUST BE PLACED SUCH THAT A SIGN CAN BE SEEN BY ALL PARTICIPANTS IN THE LAND DISTURBING ACTIVITY AT ALL TIMES, A MINIMUM OF EVERY 50'.

SIGNS MUST BE LAMINATED OR A DURABLE, WEATHERPROOF MATERIAL

TREE PRESERVATION TECHNIQUES

(Both techniques described below can be combined with the pruning of roots that may occur beyond the area of treatment).

#1 - For Use in Areas Where Equipment Must Operate in Areas That Will Remain at Existing Grade:

- In the woodchip and plywood or chainlink fence area shown in figure 1 below, spread 10-15" of wood chips by hand.
- On top of the wood chips, lay 5/8 to ¾ inch plywood or heavy-gauge chain link fence to provide a path for equipment and workers to operate.

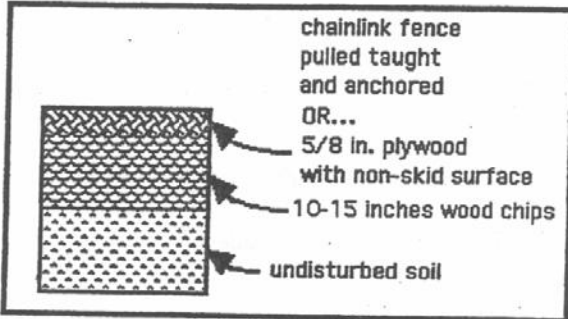


Figure 1

#2 – For Use in Areas Where Fill Soil Will Be Placed Over the Root Zone:

- An aeration system shall be installed in the area shown in figure 2 below prior to grading. The aeration system (see diagram below) shall consist of *geotextile* fabric laid on top of the undisturbed ground; with not less than six inches of river rock on top of it; and with a second layer of *geotextile* fabric laid on top of the rock.
- Fill dirt can then be placed on top of the *geotextile* fabric.

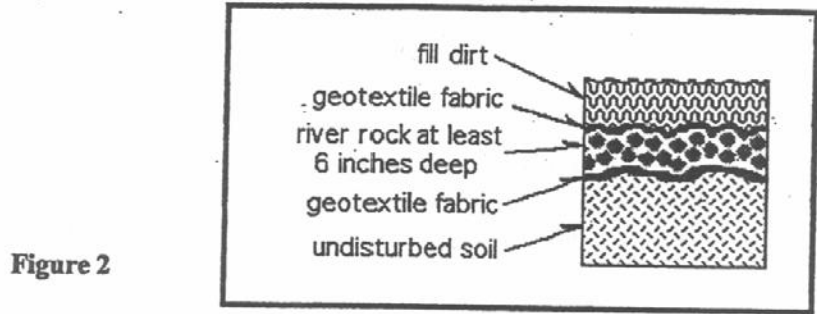


Figure 2

FOUNDERS ROW
AT THE INTER SECTION OF WEST BROAD STREET,
NORTH WEST STREET & PARK AVENUE
CITY OF FALLS CHURCH, VIRGINIA

WALTER L. PHILLIPS
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A circular professional engineer seal for the Commonwealth of Virginia. The outer ring contains the text "COMMONWEALTH OF VIRGINIA" on the left and "PROFESSIONAL ENGINEER" on the right. In the center, the name "Karen L. S. White" is written in a large, stylized cursive font. Below the name, the text "KAREN L. S. WHITE" and "Lic. No. 041850" are printed in a smaller, sans-serif font. To the right of the license number, the date "7/10/18" is printed in a large, bold, sans-serif font.

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Tree Inventory - West and Broad St. - Falls Church, VA												
								Activities				

Tree Inventory - West and Broad St. - Falls Church, VA												
Tree #	Botanical Name	Common Name	Size DBH (in)	Critical Root Zone (CRZ) Radius (ft)	Species Rating (%)	Condition%	Removal	Activities				Notes
								Tree Protection Fence/ Super Silt Fence	Root Prune	Remove Vines	Hand Removal/ Selective Removal	
Tree Survey Information Completed by Walter Phillips, Inc - Arborist Ben Schitter- ISA # MA-5385A #07-023 30 July 2013, 18 December 2014												
2744	Acer negundo	Boxelder	7	8'	50%	44%	X					Vines
2745	Prunus serotina	Black cherry	7	8'	65%	50%	X					Vines
2747	Morus rubra	Red mulberry	21	21'	40%	53%	X					Twin; deadwood; vines
2751	Morus rubra	Red mulberry	45	68'	40%	44%	X					Twin; deadwood; vines
2861	Quercus palustris	Pin oak	36	54'	80%	47%		X	X			offsite
2942	Quercus rubra	Northern red oak	12	12'	85%	53%						Offsite street tree, girdled roots
3054	Quercus rubra	Northern red oak	10	10'	85%	56%						Offsite street tree, girdled roots
3060	Quercus rubra	Northern red oak	12	12'	85%	56%						Offsite street tree
3064	Quercus rubra	Northern red oak	10	10'	85%	56%						Offsite street tree
3308	Juniperus virginiana	Eastern redcedar	14	14'	85%	47%	X					deadwood
3361	Juniperus virginiana	Eastern redcedar	18	18'	85%	50%	X					deadwood; vines
3362	Juniperus virginiana	Eastern redcedar	15	15'	85%	50%	X					deadwood; vines
3363	Juniperus virginiana	Eastern redcedar	19	19'	85%	50%	X					deadwood; vines
3364	Juniperus virginiana	Eastern redcedar	15	15'	85%	50%	X					deadwood; vines
3365	Juniperus virginiana	Eastern redcedar	18	18'	85%	50%	X					deadwood; vines
3366	Quercus rubra	Northern red oak	3	8'	85%	47%	X					lean
3367	Acer platanoides	Norway maple	17	17'	30%	50%	X					triple trunk
3368	Acer platanoides	Norway maple	23	23'	30%	50%	X					multi-stem (4)
3369	Acer platanoides	Norway maple	6	8'	30%	50%	X					deadwood
3370	Prunus serotina	Black cherry	24	24'	65%	47%	X					deadwood
3371	Ilex opaca	American holly	14	14'	85%	56%	X					vines
3385	Catalpa speciosa	Northern catalpa	27	27'	60%	53%	X					Multi-stem (6); vines
3386	Acer platanoides	Norway maple	6	8'	30%	53%	X					
3395	Acer platanoides	Norway maple	7	8'	30%	50%	X					deadwood
3396	Acer platanoides	Norway maple	9	9'	30%	53%	X					deadwood
3403	Pinus nigra	Austrian pine	8	8'	70%	56%	X					
3404	Pinus nigra	Austrian pine	6	8'	70%	56%	X					
3408	Quercus palustris	Pin oak	40	60'	80%	50%	X					vines
3416	Malus spp.	Crabapple	12	12'	70%	47%	X					vines
3420	Juniperus virginiana	Eastern redcedar	37	56'	85%	50%	X					twin; deadwood
3421	Juniperus virginiana	Eastern redcedar	31	47'	85%	44%	X					deadwood
3467	Lagerstroemia indica	Crape Myrtle	10	10'	80%	56%	X					multi-stem (4)
3469	Prunus caroliniana	Carolina laurelcherry	5	8'	0%	50%	X					
3502	Prunus spp.	Ornamental Cherry	2	8'	70%	53%	X					
3503	Lagerstroemia indica	Crape Myrtle	12	12'	80%	56%	X					multi-stem (4)
3504	Lagerstroemia indica	Crape Myrtle	12	12'	80%	56%	X					multi-stem (4)
3505	Lagerstroemia indica	Crape Myrtle	12	12'	80%	56%	X					multi-stem (4)
3506	Lagerstroemia indica	Crape Myrtle	12	12'	80%	56%	X					multi-stem (4)
3507	Lagerstroemia indica	Crape Myrtle	12	12'	80%	56%	X					multi-stem (4)
3518	Juniperus virginiana	Eastern redcedar	3	8'	85%	47%	X					lean
3525	Acer palmatum	Japanese maple	4	8'	80%	50%	X					twin
3540	x Cupressocyparis leylandii	Leyland cypress	6	8'	40%	59%	X					
3541	x Cupressocyparis leylandii	Leyland cypress	6	8'	40%	59%	X					
3542	x Cupressocyparis leylandii	Leyland cypress	6	8'	40%	59%	X					
3543	x Cupressocyparis leylandii	Leyland cypress	6	8'	40%	59%	X					
3544	x Cupressocyparis leylandii	Leyland cypress	6	8'	40%	59%	X					
3545	x Cupressocyparis leylandii	Leyland cypress	6	8'	40%	59%	X					
3546	x Cupressocyparis leylandii	Leyland cypress	6	8'	40%	59%	X					
3549	Magnolia Spp.	Magnolia	5	8'	NONE	56%	X					
3550	Diospyros virginiana	Common persimmon	20	20'	85%	56%	X					
3554	Cornus Spp.	Dogwood	3	8'	NONE	59%	X					
3556	Lagerstroemia indica	Crape Myrtle	6	8'	80%	59%	X					twin
3561	Betula nigra	River birch	26	26'	80%	59%	X					Triple trunk
3562	Lagerstroemia indica	Crape Myrtle	10	10'	80%	53%	X					Multi-Stem
3563	Betula nigra	River birch	22	22'	80%	59%	X					Triple trunk
3564	Lagerstroemia indica	Crape Myrtle	10	10'	80%	56%	X					Multi-Stem
3569	Prunus spp.	Ornamental Cherry	3	8'	70%	59%	X					
3570	Betula nigra	River birch	9	9'	80%	56%	X					
3584	Cornus florida	Flowering dogwood	6	8'	80%	56%	X					

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Tree Inventory - West and Broad St. - Falk Church, VA													
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TREE INVENTORY

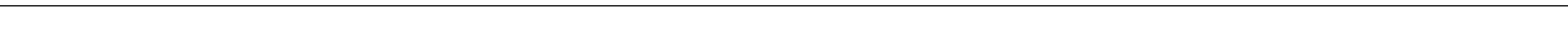
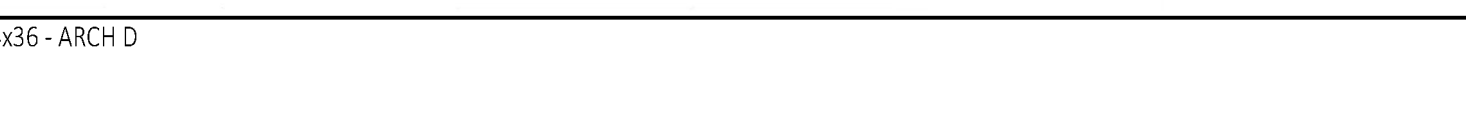
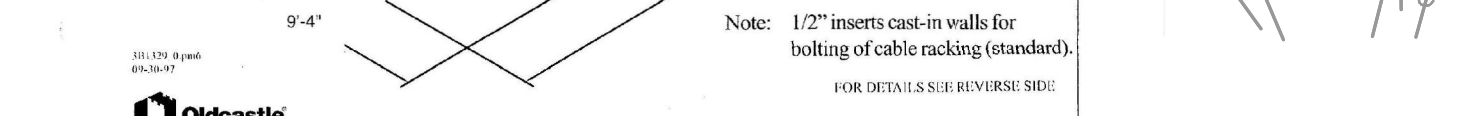
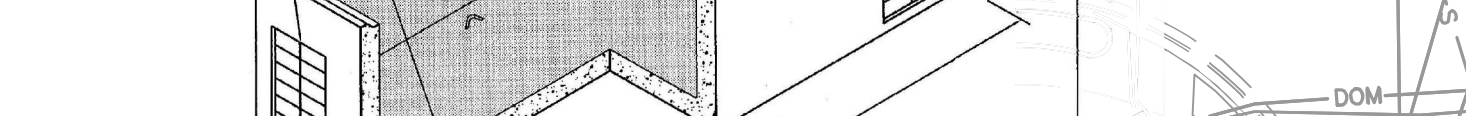
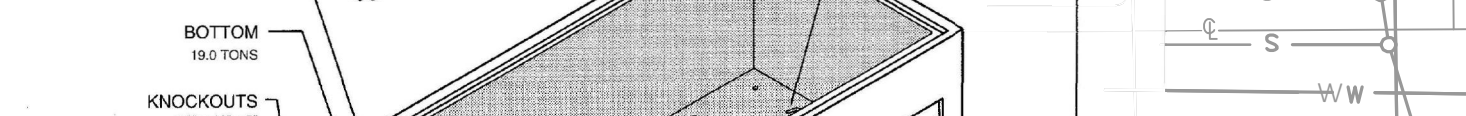
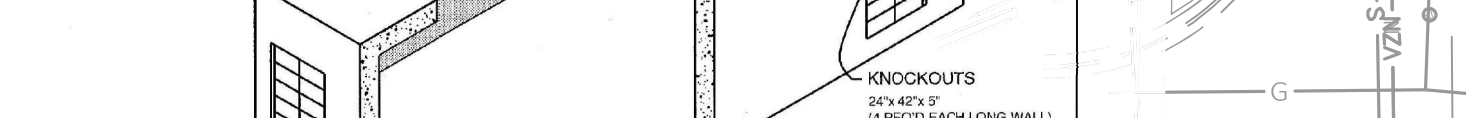
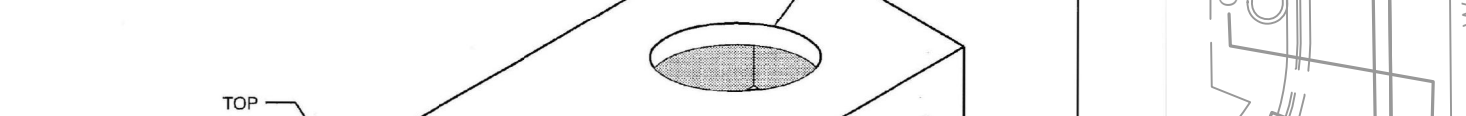
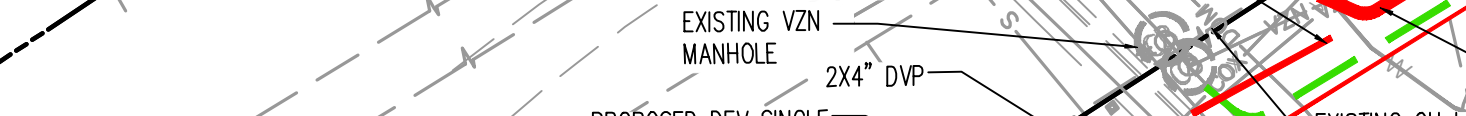
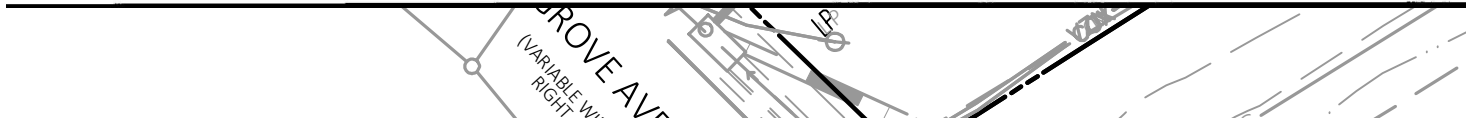
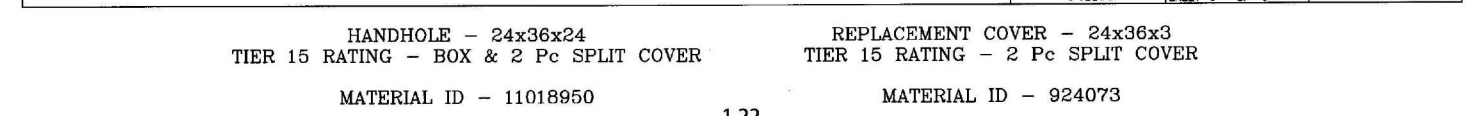
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SUB 803 7/10/2018	DRAWN: AI, KW, DM, BP	CHECKED: KW
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MATERIAL PICKUP WITH EACH UTILITY.

THOMPSON
 DB 4154 PG 18
 ZONE: B-1
 USE: CHURCH/SCHOOL

_____ ○ _____ S _____ S _____

_____ (1) _____

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SCALE: 1"=30'

571-334-8717 www.davisutilityconsulting.com Fax: 703-631-3057



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PLAN

Oil

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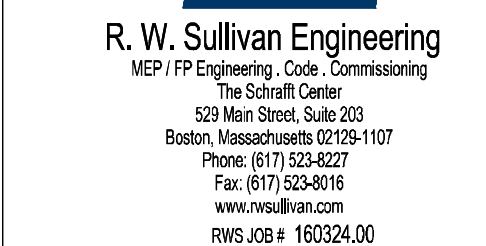
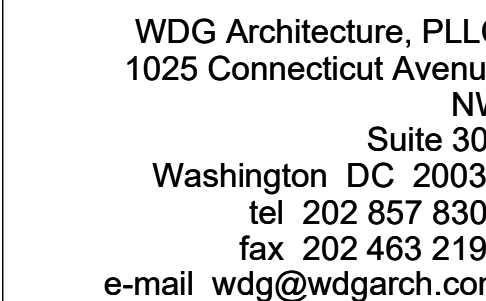
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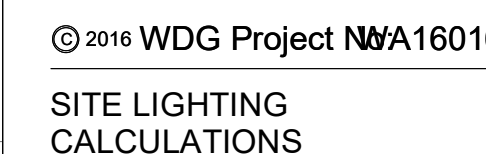
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PHONE #:	703 946-8318
SCALE:	1"=30'



Falls Church City,
VA

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